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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,164	09/27/2004	Derek W. Mackney	3076R-01	5093

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EXAMINER	
MCAVOY, ELLEN M	

ART UNIT	PAPER NUMBER
1797	

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11/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,164	MACKNEY ET AL.	
	Examiner	Art Unit	
	Ellen M. McAvoy	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,7-10,12-14 and 16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,7-10,12-14 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 5, 7-10, 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forde et al (6,136,051) in combination with Nakazato et al (6,569,818).

Applicants' arguments filed 14 July 2009 have been fully considered but they are not persuasive. As previously set forth, Forde et al ["Forde"] disclose a fuel composition that has good control of combustion chamber deposits which comprises a major portion of hydrocarbons boiling in the gasoline range; at least 1200 ppm by weight of a detergent selected from hydrocarbyl-substituted amine or polyamine; and at least 2400 ppm by weight of a mineral carrier fluid. The hydrocarbyl-substituted amines and polyamines contain a hydrocarbyl group having an average molecular weight in the range of from 450 to 10,000, preferably 1,000 to 5,000, and includes polyisobutylene. See column 2, lines 20-59. Forde allows for the addition of other additives to the gasoline composition including other detergents and dispersants including succinimides. See column 5, lines 40-48. The examiner is of the position that the detergent additive of Forde meets the limitations of the detergent additive of the claims when it is component (A), a succinimide or component (B), hydrocarbyl-substituted amines. Applicants' open-ended claim language "comprising" allows for the addition of other additives to the composition such as the mineral carrier fluid of Forde. Applicants' invention differs in independent claim 1 by requiring that the engine have an exhaust treatment device, and that the

lubricating oil circulated within the engine have all of the properties of low phosphorus, low sulfur and low sulfated ash content; and in dependent claim 12 that the fuel in the fuel composition have a sulfur content below about 80 ppm by weight. However, as evidenced by Nakazato et al, ["Nakazato"], such characteristics are well-known in the art. Nakazato discloses a lubricating oil composition suitable for use in internal combustion engines, such as diesel engines and gasoline engines, wherein the composition has a sulfur content of 0.01 to 0.3 wt.%, a phosphorus content of 0.01 to 0.1 wt.%, and giving a sulfated ash content in the range of 0.1 to 1 wt.%. Nakazato also discloses that the lubricating oil composition may be used in motor vehicles using low sulfur hydrocarbon fuels (0.01 wt.% or less), particularly diesel engine-mounted vehicles to which exhaust gas-cleaning devices containing particulate filters are attached. See column 3, lines 42-60. Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have followed the teachings of the art and to have used the gasoline fuel composition of Forde in combination with the low phosphorus content, low sulfur content and low sulfated ash content lubricating oil composition of Nakazato if the known imparted properties were so desired. The examiner is of the position that the combination of familiar elements according to known methods is likely obvious when the combination does no more than yield predictable results. *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395. And the examiner is of the position that all that is required for obviousness under 35 U.S.C. §103 is a reasonable expectation of success. *O'Farrell,* 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

In response applicants amended independent claim 1 and added new claim 16 to further specify component (B) and to include that the fuel compositions may optionally contain a

mineral oil fluidizer in an amount of up to 1000 ppm by weight. Applicants argued that the claims differ from Forde which requires the addition of at least 2400 ppm by weight of a mineral carrier fluid. This is not deemed to be persuasive because the carrier fluid disclosed in Forde is a petroleum spray oil, particularly a refined naphthenic lubricating oil having a viscosity at 100F of 1,000 to 2,000 SUS (column 5, lines 7-16). As set forth above, applicants' open-ended claim language "comprising" allows for the addition of other additives to the composition such as the mineral carrier fluid of Forde. It is not clear that the "mineral oil fluidizer" of the claims includes Forde's refined naphthenic oil having a specific viscosity since applicants have not set forth examples of the "mineral oil fluidizer" in the specification. Further, the examiner is of the position that it would have been obvious to the skilled artisan to have added a smaller amount or even to have omitted the refined naphthenic oil of Forde if its known imparted property as an inert carrier was no longer needed or desired. And, as set forth above, all that is required for obviousness under 35 U.S.C. §103 is a reasonable expectation of success. *O'Farrell,* 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Claim Rejections - 35 USC § 103

Claims 1, 3, 5, 7-10, 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al in combination with Pierce-Ruhland et al (5,407,453), Bovington et al (6,720,293) and Koganei et al (6,329,328).

Applicants' arguments filed 14 July 2009 have been fully considered but they are not persuasive. As previously set forth, Moreton et al ["Moreton"] disclose a detergent suitable for use in hydrocarbon fuels, such as gasoline fuels and diesel fuels, comprising mixing (1) a

Mannich reaction product made by reacting a polyisobutene phenol, an aldehyde, and ethylene diamine, and (2) a compound selected from alkylbenzene sulfonic acid, alkylnaphthalene sulfonic acids, acetylacetone and mixtures thereof. Moreton teaches that the fuel composition may additionally contain known additives such as a cetane improver, antioxidants, etc. See column 4, lines 37-51. The examiner is of the position that the Mannich products of Moreton meet the limitations of the detergent additive of the claims when it is component (C), a Mannich reaction product of a hydrocarbyl-substituted hydroxy-containing aromatic compound, an aldehyde and an amine. Applicants' invention differs by requiring the addition of component (A) and/or (B) to the fuel composition. However, Moreton allows for the addition of dispersants including a PIB (polyisobutylene) polyamines. See column 4, lines 47-48. Further, Pierce-Ruhland is added to teach that hydrocarbyl-substituted amine detergents may prepared by the reaction product of a chlorinated polyisobutylene, a polyamine and a base. Applicants teach in the specification on page 9 that Pierce-Ruhland meets the limitations of the claims for component (B)(i). Applicants' invention differs in independent claim 1 by requiring that the engine have an exhaust treatment device, and that the lubricating oil circulated within the engine have all of the properties of low phosphorus, low sulfur and low sulfated ash content; and in dependent claim 12 that the fuel in the fuel composition have a sulfur content below about 80 ppm by weight. However, as evidenced by Bovington et al ["Bovington"] and Koganei et al ["Koganei"], such characteristics are well-known in the art. Bovington discloses a low viscosity lubricating oil composition suitable for use in a heavy duty diesel engine which a major amount of a base oil and minor amounts of other additives such as a dispersant, detergent, and optional additives. Bovington teaches that the oil composition has a sulfated ash value of up to 2.0 mass

%, a phosphorus content up to 0.14 wt.%, and a sulfur content of up to 1 wt.%. See column 1, line 33 to column 3, line 10. Koganei discloses that diesel engines conventionally contain exhaust gas recirculation (EGR) systems. Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have followed the teachings of the art and to have used the gasoline or diesel fuel composition of Moreton in combination with the low phosphorus content, low sulfur content and low sulfated ash content lubricating oil composition of Bovington if the known imparted properties were so desired. Further, it is well-known that diesel engines may contain EGR systems. The examiner is of the position that the combination of familiar elements according to known methods is likely obvious when the combination does no more than yield predictable results. *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395. And the examiner is of the position that all that is required for obviousness under 35 U.S.C. §103 is a reasonable expectation of success. *O'Farrell,* 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

In response applicants amended independent claim 1, added new claim 16, and argued that none of the detergents of the claims, i.e., components (A) or (B), are taught by Moreton or by any of the other references cited in this set of rejections. This is not deemed to be persuasive because, as set forth above, Moreton allows for the addition of dispersants to the fuel compositions including a PIB (polyisobutylene) polyamines which still meets the limitation of component (B)(i) of the claims since the product of the process is a polyisobutylene polyamine. In applicants response, independent claim 1 has been amended to include that hydrocarbyl-substituted amine component (B) may comprise (i) the reaction product of a chlorinated polyisobutylene, a polyamine and a base. However, such hydrocarbyl-substituted amine

detergents may prepared by the claimed process as evidenced by Pierce-Ruhland et al. Thus the examiner is of the position that it would have been obvious to the skilled artisan to have added any PIB (polyisobutylene) polyamine detergent to the fuel compositions disclosed in Moreton such as the fuel detergents of Pierce-Ruhland.

Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/
Primary Examiner
Art Unit 1797

EMcAvoy
November 10, 2009